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Environmental Protection
Agency

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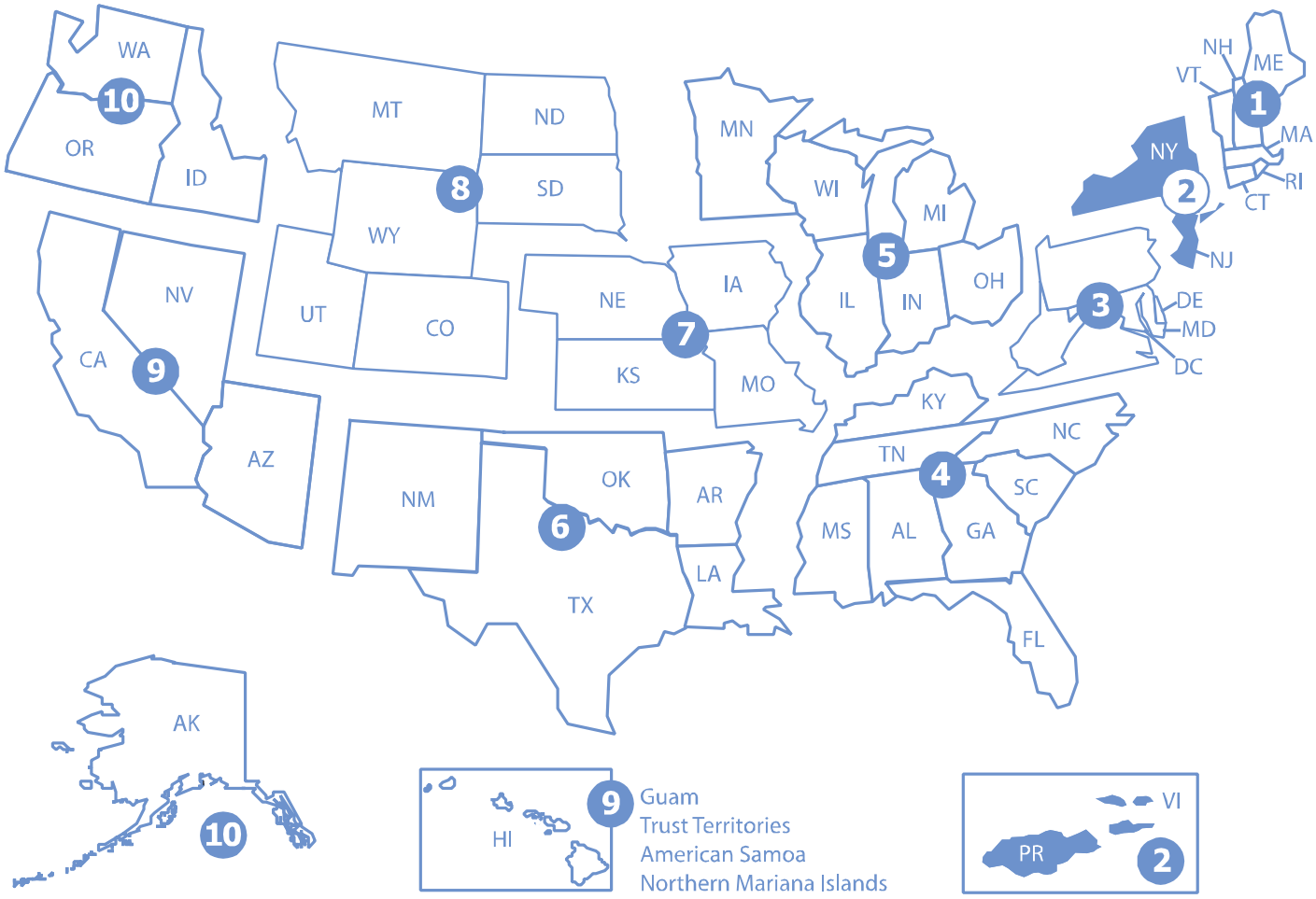
Office of Solid Waste and Emergency Response

Support Document for the Revised National Priorities List Final Rule – Eighteenmile Creek



Support Document for the Revised National Priorities List Final Rule Eighteenmile Creek

March 2012

Site Assessment and Remedy Decisions Branch
Office of Superfund Remediation and Technology Innovation
Office of Solid Waste and Emergency Response
U.S. Environmental Protection Agency
Washington, DC 20460

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Executive Summary

Section 105(a)(8)(B) of CERCLA, as amended by SARA, requires that the EPA prepare a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States. An original National Priorities List (NPL) was promulgated on September 8, 1983 (48 FR 40658). CERCLA requires that the EPA update the list at least annually.

This document provides responses to public comments received on the Eighteenmile Creek site, proposed on September 16, 2011 (76 FR 57702). This site is being added to the NPL based on an evaluation under the EPA's Hazard Ranking System (HRS) in a final rule published in the *Federal Register* in March 2012.

Introduction

This document explains the rationale for adding the Eighteenmile Creek site in Niagara County, New York, to the National Priorities List (NPL) of uncontrolled hazardous waste sites and also provides the responses to public comments received on this site. The EPA proposed this site on September 16, 2011 (76 FR 57702). This site is being added to the NPL based on an evaluation under the Hazard Ranking System (HRS) in a final rule published in the *Federal Register* in March 2012.

Background of the NPL

In 1980, Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. Sections 9601 *et seq*. in response to the dangers of uncontrolled hazardous waste sites. CERCLA was amended on October 17, 1986, by the Superfund Amendments and Reauthorization Act (SARA), Public Law No. 99-499, stat., 1613 *et seq.* To implement CERCLA, the EPA promulgated the revised National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300, on July 16, 1982 (47 FR 31180), pursuant to CERCLA Section 105 and Executive Order 12316 (46 FR 42237, August 20, 1981). The NCP, further revised by the EPA on September 16, 1985 (50 FR 37624) and November 20, 1985 (50 FR 47912), sets forth guidelines and procedures needed to respond under CERCLA to releases and threatened releases of hazardous substances, pollutants, or contaminants. On March 8, 1990 (55 FR 8666), the EPA further revised the NCP in response to SARA.

Section 105(a)(8)(A) of CERCLA, as amended by SARA, requires that the NCP include

> criteria for determining priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action and, to the extent practicable, take into account the potential urgency of such action, for the purpose of taking removal action.

Removal action involves cleanup or other actions that are taken in response to emergency conditions or on a short-term or temporary basis (CERCLA Section 101). Remedial action is generally long-term in nature and involves response actions that are consistent with a permanent remedy for a release (CERCLA Section 101). Criteria for placing sites on the NPL, which makes them eligible for remedial actions financed by the Trust Fund established under CERCLA, were included in the HRS. The EPA promulgated the HRS as Appendix A of the NCP (47 FR 31219, July 16, 1982). On December 14, 1990 (56 FR 51532), the EPA promulgated revisions to the HRS in response to SARA, and established the effective date for the HRS revisions as March 15, 1991.

Section 105(a)(8)(B) of CERCLA, as amended, requires that the statutory criteria provided by the HRS be used to prepare a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States. The list, which is Appendix B of the NCP, is the NPL.

An original NPL of 406 sites was promulgated on September 8, 1983 (48 FR 40658). At that time, an HRS score of 28.50 was established as the cutoff for listing because it yielded an initial NPL of at least 400 sites, as suggested by CERCLA. The NPL has been expanded several times since then, most recently on September 16, 2011 (76 FR 57662). The Agency also has published a number of proposed rulemakings to add sites to the NPL. The most recent proposal was on September 16, 2011 (76 FR 57702).

Development of the NPL

The primary purpose of the NPL is stated in the legislative history of CERCLA (Report of the Committee on Environment and Public Works, Senate Report No. 96-848, 96th Cong., 2d Sess. 60 [1980]).

> The priority list serves primarily informational purposes, identifying for the States and the public those facilities and sites or other releases which appear to warrant remedial actions. Inclusion of a facility or site on the list does not in itself reflect a judgment of the activities of its owner or operator, it does not require those persons to undertake any action, nor does it assign liability to any person. Subsequent government actions will be necessary in order to do so, and these actions will be attended by all appropriate procedural safeguards.

The NPL, therefore, is primarily an informational and management tool. The identification of a site for the NPL is intended primarily to guide the EPA in determining which sites warrant further investigation to assess the nature and extent of the human health and environmental risks associated with the site and to determine what CERCLA-financed remedial action(s), if any, may be appropriate. The NPL also serves to notify the public of sites the EPA believes warrant further investigation. Finally, listing a site may, to the extent potentially responsible parties are identifiable at the time of listing, serve as notice to such parties that the Agency may initiate CERCLA-financed remedial action.

CERCLA Section 105(a)(8)(B) directs the EPA to list priority sites among the known releases or threatened release of hazardous substances, pollutants, or contaminants, and Section 105(a)(8)(A) directs the EPA to consider certain enumerated and other appropriate factors in doing so. Thus, as a matter of policy, the EPA has the discretion not to use CERCLA to respond to certain types of releases. Where other authorities exist, placing sites on the NPL for possible remedial action under CERCLA may not be appropriate. Therefore, the EPA has chosen not to place certain types of sites on the NPL even though CERCLA does not exclude such action. If, however, the Agency later determines that sites not listed as a matter of policy are not being properly responded to, the Agency may consider placing them on the NPL.

Hazard Ranking System

The HRS is the principle mechanism the EPA uses to place uncontrolled waste sites on the NPL. It is a numerically based screening system that uses information from initial, limited investigations—the preliminary assessment and site inspection—to assess the relative potential of sites to pose a threat to human health or the environment. HRS scores, however, do not determine the sequence in which the EPA funds remedial response actions, because the information collected to develop HRS scores is not sufficient in itself to determine either the extent of contamination or the appropriate response for a particular site. Moreover, the sites with the highest scores do not necessarily come to the Agency's attention first, so that addressing sites strictly on the basis of ranking would in some cases require stopping work at sites where it was already underway. Thus, the EPA relies on further, more detailed studies in the remedial investigation/feasibility study that typically follows listing.

The HRS uses a structured value analysis approach to scoring sites. This approach assigns numerical values to factors that relate to or indicate risk, based on conditions at the site. The factors are grouped into three categories. Each category has a maximum value. The categories are:

- likelihood that a site has released or has the potential to release hazardous substances into the environment;
- characteristics of the waste (toxicity and waste quantity); and
- people or sensitive environments (targets) affected by the release.

Under the HRS, four pathways can be scored for one or more threats as identified below:

- Ground Water Migration (S_{gw})
  - drinking water

- Surface Water Migration (S_{sw})
  The following threats are evaluated for two separate migration components, overland/flood migration and ground water to surface water.
  - drinking water
  - human food chain
  - sensitive environments

- Soil Exposure (S_s)
  - resident population
  - nearby population
  - sensitive environments

- Air Migration (S_a)
  - population
  - sensitive environments

After scores are calculated for one or more pathways according to prescribed guidelines, they are combined using the following root-mean-square equation to determine the overall site score (S), which ranges from 0 to 100**:**

$$S = \sqrt{\frac{S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2}{4}}$$

If all pathway scores are low, the HRS score is low. However, the HRS score can be relatively high even if only one pathway score is high. This is an important requirement for HRS scoring because some extremely dangerous sites pose threats through only one pathway. For example, buried leaking drums of hazardous substances can contaminate drinking water wells, but—if the drums are buried deep enough and the substances not very volatile—not surface water or air.

Other Mechanisms for Listing

There are two mechanisms other than the HRS by which sites can be placed on the NPL. The first of these mechanisms, authorized by the NCP at 40 CFR 300.425(c)(2), allows each State and Territory to designate one site as its highest priority regardless of score. The last mechanism, authorized by the NCP at 40 CFR 300.425(c)(3), allows listing a site if it meets the following three requirements:

- Agency for Toxic Substances and Disease Registry (ATSDR) of the U.S. Public Health Service has issued a health advisory that recommends dissociation of individuals from the release;
- The EPA determines the site poses a significant threat to public health; and
- The EPA anticipates it will be more cost-effective to use its remedial authority than to use its emergency removal authority to respond to the site.

Organization of this Document

The following section contains the EPA responses to site-specific public comments received on the proposal of the Eighteenmile Creek site on September 16, 2011 (76 FR 57702). The site discussion begins with a list of commenters, followed by a site description, a summary of comments, and Agency responses to each comment. A concluding statement indicates the effect of the comments on the HRS score for the site.

Glossary

The following acronyms and abbreviations are used throughout the text:

Agency	U.S. Environmental Protection Agency
AOC	Area of Concern
ATSDR	Agency for Toxic Substances and Disease Registry
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. Sections 9601 *et seq*., also known as Superfund
CFR	Code of Federal Regulations
D.C. Cir	U.S. Court of Appeals for the District of Columbia Circuit
EPA	U.S. Environmental Protection Agency, also USEPA
FR	Federal Register
GLLA	Great Lakes Legacy Act
HAZCLEAN	HAZCLEAN Environmental Consultants, Inc.
HRS	Hazard Ranking System, Appendix A of the NCP
HRS score	Overall site score calculated using the Hazard Ranking System; ranges from 0 to 100
NCP	National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300
NPL	National Priorities List, Appendix B of the NCP
NYSBC	New York State Barge Canal, or Erie Canal
NYSDEC	New York State Department of Environmental Conservation
OSWER	USEPA's Office of Solid Waste and Emergency Response
PCB	Polychlorinated biphenyl
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
SARA	Superfund Amendments and Reauthorization Act
VanDeMark	VanDeMark Chemical Inc.

1.0 List of Commenters and Correspondence

EPA-HQ-SFUND-2011-0650-0004	Correspondence dated June 30, 2011, from Joseph J. Martens, Commissioner, New York State Department of Environmental Conservation, requesting that the Eighteenmile Creek sediment site be nominated to the National Priorities List (NPL).
EPA-HQ-SFUND-2011-0650-0005	Comment, not dated, from Victor DiGiacomo, Eighteenmile Creek Remedial Action Plan Coordinator, Niagara County Soil & Water Conservation District.
EPA-HQ-SFUND-2011-0650-0006	Correspondence dated November 14, 2011, from David P. Flynn, Phillips Lytle LLP, on behalf of VanDeMark Chemical Inc.
EPA-HQ-SFUND-2011-0650-0007	Correspondence dated November 10, 2011, from William R. Ross, Chairman, Niagara County Legislature.
EPA-HQ-SFUND-2011-0650-0008	Correspondence dated November 29, 2011, from Douglas Ammon, Site Assessment and Remedy Decisions Branch, Office of Solid Waste and Emergency Response, U.S. Environmental Protection Agency (EPA).

2.0 Site Description

The Eighteenmile Creek site (the Site) in Niagara County, New York, is depicted in Figure 1 of this support document and, as described beginning on page 10 of the Site Summary section of the HRS documentation record at proposal, consists of contaminated sediments and water of Eighteenmile Creek above the contaminated sediments. The site as scored does not include the shoreline or areas beyond the shoreline. Eighteenmile Creek itself flows north from Lockport, New York, for approximately 15 miles and discharges to Lake Ontario in Olcott, New York. The zone of contamination for HRS scoring purposes, defined by contaminated sediment samples, extends for 12.71 miles, from the industrial and formerly industrial portion in Lockport immediately north of the New York State Barge Canal (NYSBC, or Erie Canal), known as the Eighteenmile Creek Corridor,[1] and identified as Reach 10 in Figure 1, to just south (i.e., upstream) of Burt Dam; Burt Dam is the northernmost landmark of the area identified as Reach 2 in Figure 1. Investigations have confirmed the presence of polychlorinated biphenyls (PCBs), metals and other contaminants throughout most of Eighteenmile Creek, but the specific sources of contamination in any particular part of the creek have not been definitively identified.

The headwaters of Eighteenmile Creek originate southeast of Lockport in the Niagara County Park and Golf Course and flow aboveground to the west for approximately 1 mile, where they enter an underground pipe on the east side of Lockport. The creek then flows northwest under Lockport for approximately ¾ mile, where it empties into a sluice located just southeast of the NYSBC. Water from the Canal is discharged through a spillway and flows east into the sluice. The headwaters of Eighteenmile Creek and NYSBC waters combine in the sluice and flow through a culvert under the NYSBC, exiting on the north side of the NYSBC and forming what is referred to as the East Branch of Eighteenmile Creek. The West Branch of Eighteenmile Creek originates in Upson Park on the north side of the NYSBC and also receives water from two underground flows from the south and southwest. The headwaters in the southeast portion of Lockport, as well as waters in the East and West Branches, were the locations of the most upstream background sediment samples collected and evaluated to document observed releases.

[1] References 5 (pp. 10, 68 and 73) and 7 (pp. 16, 30 and 31) of the HRS documentation record at proposal describe and depict the location of the Eighteenmile Creek Corridor State Superfund site.

P:/SAT2/Eighteenmile Creek HRS/MXD/2012_02_HRS/10830_ECHRS_Site_loc_2012_02.mxd

Reach 1
Mouth of Creek to Burt Dam

Burt Dam / Fisherman's Park Fishery

Burt Dam

Farthest Downstream Sample: R2-001-V-Z3

Reach 2
Burt Dam Impoundment

Reach 3
Confluence of Eighteenmile Creek with Upstream Extent of Burt Dam Impoundment

Ide Road Fishery

See Figure 2E

Reach 4
Bedrock/Gravel Channel Downstream of Newfane Dam

Reach 5
Newfane Dam Impoundment

Newfane Dam

See Figure 2D

Reach 6 - Section 1
Gravel Channel Upstream of Newfane Dam Impoundment

Reach 6 - Section 2
Gravel Channel Upstream of Newfane Dam Impoundment

See Figure 2C

Reach 7 - Section 2
Meandering Section with LWD* Downstream of Niagara Escarpment

Reach 7 - Section 1
Meandering Section with LWD* Downstream of Niagara Escarpment

Reach 8
Steep Gradient Run of the Escarpment

See Figure 2B

Reach 7 - Section 3
Meandering Section with LWD* Downstream of Niagara Escarpment

Reach 9
Short Run Downstream of Corridor Site

Site Reference Point

Reach 10
Eighteenmile Creek Corridor Site

Farthest upstream sample: 18MC-L03W-S01-Z1

See Figure 2A

Legend

- Site Reference Point
- Background Sample Location
- Release Sample Location
- Zone of Contamination
- Reach Segment
- Reach Segment Endpoint
- Inset Box

Note:
1. The extent of Burt Dam / Fisherman's Park Fishery is 1,370'

Sources:
1. CH2M Hill, Ecology and Environment, Inc., Environmental Design International, Inc., and Teska Associates, Inc. Data Summary Report Site Characterization of the Eighteenmile Creek Area of Concern. Prepared for U.S. Environmental Protection Agency. March 2011.
2. Ecology and Environment, Inc. Final Supplemental Remedial Investigation Report for the Eighteenmile Creek Corridor Site. Prepared for New York State Department of Environmental Conservation. July 2009.
3. National Geographic TOPO! U.S. Geologic Survey (USGS). 7.5-Minute Series (Topographic) Quadrangles: Cambria, NY 1980; Lockport, NY 1980; Newfane, NY 1978; and Wilson, NY 1979.

SCALE: 2,500 0 2,500 5,000
Graphic Scale In Feet

PROJECT: Eighteenmile Creek HRS

CLIENT NAME: EPA

TITLE:
Site Location Map
Eighteenmile Creek HRS
Niagara County, NY

DRAWING NUMBER: 10830

FIGURE #: 1

DRAWN BY: J. Lynes

REVIEWED BY: M. Capriglione

PROJECT MANAGER: G. Gilliland

SCALE: 1" = 5,000'

DATE: February 2012

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W E
S

The land within the Eighteenmile Creek watershed consists primarily of croplands and orchards, with residential, commercial and industrial areas located around Lockport, Newfane and Olcott Harbor. Fisherman's Park, a public fishing area located within Eighteenmile Creek just downstream of Burt Dam, is a major fishing destination where species of fish including steelhead trout, salmon, walleye, perch and northern pike are caught and consumed. In addition, a consumption fishery is located on Eighteenmile Creek at Ide Road in Newfane, New York, within the zone of contamination. Eighteenmile Creek has been classified as an Area of Concern (AOC) by the EPA Great Lakes National Program Office (GLNPO), due to its natural resources value within the Lake Ontario watershed.

Eighteenmile Creek and surrounding properties have been the focus of numerous investigations by the New York State Department of Environmental Conservation (NYSDEC) and the EPA since the late 1980s. The Eighteenmile Creek Corridor is the focus of a Remedial Investigation (RI) and Supplemental RI completed on behalf of the NYSDEC, which has produced two cleanup plans addressing the Eighteenmile Creek Corridor, but remedial actions have not been implemented.

3.0 Summary of Comments

Three commenters, Joseph J. Martens, Commissioner, New York State Department of Environmental Conservation, William R. Ross of the Niagara County Legislature and Victor DiGiacomo of the Niagara County Soil & Water Conservation District, wrote in favor of placing the Eighteenmile Creek site on the NPL. Additionally, the Niagara County Legislature requested that the proposed Eighteenmile Creek NPL site extend from the NYSBC to Lake Ontario. The Niagara County Legislature further requested that the EPA work closely with the NYSDEC during remediation, and, specifically, that the remediation take place in phases. After identifying the first phase, the Niagara County Legislature recommended that the first phase begin immediately.

One commenter, David P. Flynn of Phillips Lytle LLP, on behalf of VanDeMark Chemical Inc. (VanDeMark), wrote to request a ninety (90) day extension of time in which to submit comments regarding the proposed listing of the Site on the NPL, and further requested that the EPA defer any listing decision pending receipt and consideration of comments from VanDeMark and others. VanDeMark provided three reasons to support its request: (1) the quantity of data to evaluate to prepare comments; (2) a recommendation to consider deferral of this site to the Great Lakes Legacy Act (GLLA) program; and (3) VanDeMark's belief that, after preliminary review, the proposal to list the entire Eighteenmile Creek on the NPL was not adequately supported and was overbroad. VanDeMark provided these reasons as preliminary comments for consideration.

Douglas Ammon, of the EPA's Office of Solid Waste and Emergency Response, wrote that, after considering VanDeMark's request for the extension of time to submit comments, the EPA denied the request.

This support document is responding to comments submitted on the September 2011 proposed listing of the Eighteenmile Creek site. After consideration of these items, the HRS site score remains greater than 28.50, sufficient to qualify the Eighteenmile Creek site for the NPL, and the Site is being placed on the NPL.

3.1 Support for Listing

Comment: Three commenters, New York State Department of Environmental Conservation (NYSDEC), the Niagara County Legislature, and the Niagara County Soil & Water Conservation District wrote in favor of placing the Eighteenmile Creek site on the NPL.

Response: The Eighteenmile Creek site has been added to the NPL. Listing makes a site eligible for remedial action funding under CERCLA, and at a different stage in the Superfund process, the site would be examined to determine the appropriate response action(s). Actual funding may not necessarily be undertaken in the precise order of HRS scores. In addition, upon more detailed investigation may not be necessary at all in some cases. The need for using Superfund monies for remedial activities is determined on a site-by-site basis, taking into account the NPL ranking, State priorities, further site investigation, other response alternatives and other factors

as appropriate. Work at some sites will not stop to begin work at other, higher-scoring sites added to the NPL more recently.

3.2 Request for Extension of Time for Comments/Delay of Listing Decision

Comment: One commenter, VanDeMark, wrote to request a ninety (90) day extension of time in which to submit comments regarding the proposed listing of the site on the NPL, and further requested that the EPA delay any listing decision pending receipt and consideration of comments from VanDeMark and others. VanDeMark provided three reasons to support its request: (1) the quantity of data to evaluate to prepare comments; (2) a recommendation to consider deferral of this site to the Great Lakes Legacy Act (GLLA) program; and (3) VanDeMark's belief that, after preliminary review, the proposal to list the entire Eighteenmile Creek on the NPL was not adequately supported and was overbroad. VanDeMark provided these reasons as preliminary comments for consideration.

Response: The request for the extension was denied on November 29, 2011 (EPA-HQ-SFUND-2011-0650-0008). It is the EPA's policy to extend the comment period only on a site-specific basis to address any procedural errors, such as incomplete or missing references in the public docket. This approach is consistent with the Administrative Procedure Act. No procedural errors were identified in this case.

This approach for managing late comments is stated in the preamble of the proposed rule for the Eighteenmile Creek site (76 FR 57706, September 16, 2011):

> Generally, [the] EPA can guarantee only that it will consider those comments postmarked by the close of the formal comment period. [The] EPA has a policy of generally not delaying a final listing decision solely to accommodate consideration of late comments.

3.3 Extent of Site

Comment: The Niagara County Legislature requested that the proposed Eighteenmile Creek site extend from the NYSBC to Lake Ontario. VanDeMark requested that the EPA list only those portions of the Creek, specifically Reaches 1, 2, 5 and 10 of the Creek.

Response: As explained in sections 3.3.1, Definition of Site, and 3.3.2, Extent of Site at Proposal, below, the Site was delineated consistent with the HRS definition of site as where the contamination has come to be located, and its boundaries, the boundaries of the PCB plume used in the HRS evaluation, were established consistent with the HRS.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.3.1 Definition of Site

Comment: Both the Niagara County Legislature and VanDeMark requested clarification of the Site boundaries.

Response: The Site is defined in the HRS documentation record at proposal consistent with the HRS definition of site. The Site includes only those portions of the Creek where contamination has come to be located. Section 1.1 of the HRS (55 FR 51587, December 14, 1990) defines "site" as follows:

> Site: Area(s) where a hazardous substance has been deposited, stored, disposed, or placed, or has otherwise come to be located. Such areas may include multiple sources and may include the area between sources.

As stated on page 10, Site Summary, of the HRS documentation record at proposal, "The Eighteenmile Creek site (CERCLIS ID No. NYN000206456) in Niagara County, New York consists of contaminated sediments and water

of Eighteenmile Creek above the contaminated sediments. The site as scored presently does not include the shoreline or areas beyond the shoreline." However, until the site investigation process has been completed and a remedial action (if any) selected, the EPA can neither estimate the extent of contamination at the Site, nor describe the ultimate dimensions of the Site. Even during a remedial action, the EPA may find that the contamination has spread further than previously estimated, and the site definition may be correspondingly expanded. See Washington State DOT v. EPA, 917 F.2d 1309, 1310 (D.C. Cir. 1990) (citing Eagle-Picher Indus. v. EPA, 822 F.2d 132, 144 (D.C. Cir. 1987)).

On the same page, the HRS documentation record at proposal continues "[t]he zone of contamination, defined by samples documenting an observed release (18MC-L03W-S01-Z1 through R2-001-V-Z3) extends for 12.71 miles." These sample locations were depicted on Figures 2A and 2E, respectively, of the HRS documentation record at proposal and are depicted on Figure 1 of this support document. As explained on page 1 of the HRS documentation record at proposal, these areas are identified as part of the Site based on the screening information used to evaluate the Site for NPL listing. The focus of the listing is on the release, not precisely delineated boundaries. Generally, HRS scoring and the subsequent listing of a release merely represent the initial determination that a certain area may need to be addressed under CERCLA. Accordingly, the preliminary description of site boundaries at the time of scoring would be refined as more information is developed as to where the contamination has come to be located.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.3.2 Extent of Site at Proposal

Comment: The Niagara County Legislature requested that the proposed Eighteenmile Creek NPL site extend from the NYSBC to Lake Ontario. VanDeMark requested that the EPA list only portions of the Creek, specifically Reaches 1, 2, 5 and 10.

Response: The extent of the Eighteenmile Creek site for HRS scoring purposes is accurately depicted in the HRS documentation record at proposal as extending from the southern end of the Eighteenmile Creek Corridor (sample location 18MC-L03W-S01-Z1) to just south of (upstream of) Burt Dam (sample location R2-001-V-Z3), as depicted in Figure 1 of this support document. For HRS scoring purposes, the Site does not include the entire creek or all the reaches, but, as explained in section 3.3.1, Definition of Site, of this support document, the Site boundaries may be expanded during further investigation.

HRS Section 4.1.1.1, *Definition of hazardous substance migration path for overland/flood migration component*, states in part: "For sites that consist of contaminated sediments with no identified source, the hazardous substance migration path consists solely of the in-water segment specified in section 4.1.1.2." HRS Section 4.1.1.2, Target *distance limit*, states in part:

> For sites consisting solely of contaminated sediments with no identified source, determine the target distance limit as follows:
>
> - If there is a clearly defined direction of flow for the surface water body (or bodies) containing the contaminated sediments, begin measuring the target distance limit at the point of observed sediment contamination that is farthest upstream (that is, at the location of the farthest available upstream sediment sample that meets the criteria for an observed release); extend the target distance limit either for 15 miles along the surface water or to the most distant downstream sample point that meets the criteria for an observed release to that watershed, whichever is greater.
>
> - If there is no clearly defined direction of flow, begin measuring the target distance limit at the center of the area of observed sediment contamination. Extend the target distance limit as an arc either for 15 miles along the surface water or to the most distant sample point that meets

the criteria for an observed release to that watershed, whichever is greater. Determine the area of observed sediment contamination based on available samples that meet the criteria for an observed release.

Note that the hazardous substance migration path for these contaminated sediment sites consists solely of the in-water segment defined by the target distance limit; there is no overland segment.

As explained on page 35 of the HRS documentation record at proposal under the heading Attribution, sediments in Eighteenmile Creek are contaminated with PCBs, copper, lead, zinc and benzo(a)pyrene. Due to the presence of multiple possible sources, contamination in the Creek cannot be linked to any particular source location.

Because the Eighteenmile Creek site consists of contaminated sediments with no identified source, the hazardous substance migration path documented on page 34 of the HRS documentation record at proposal consists solely of the in-water segment, which includes the sediments.

Therefore, the extent of the Site for HRS purposes is defined by the location of the observed releases. Section 3.7, Observed Release: Selection of Background Level, of this support document provides a more detailed explanation of the HRS requirements for establishing an observed release as applicable to the Eighteenmile Creek site and how these requirements were met.

As explained on page 35 of the HRS documentation record at proposal, in section 4.1.2.1.1, Observed Release, observed release by chemical analysis is documented in Eighteenmile Creek between just north of the NYSBC in Lockport (farthest upstream sample: 18MC-L03-S01-Z1) to just south of Burt Dam (farthest downstream sample: R2-001-V-Z3). In addition to those two sample locations, there are 73 other observed release samples taken from locations throughout the creek between these sample points. The 75 total observed release sample locations are shown in Figure 1 of this support document. Therefore, for HRS purposes, as indicated on page 10 in the Site Summary section of the HRS documentation record at proposal, the Site, as defined by samples documenting an observed release, extends from just north of the NYSBC in Lockport to just south of Burt Dam.

Regarding the Niagara County Legislature's request that the Site extend from the NYSBC to Lake Ontario, sampling evaluated for the HRS does not explicitly document that this further extent is contaminated for HRS scoring purposes. As depicted in Figure 1 of this support document, the Site for HRS scoring purposes begins near but downstream of the NYSBC. Furthermore, the Site also does not extend to Lake Ontario, but stops just south of Burt Dam. However, as discussed above in section 3.3.1, Definition of Site, of this support document, the Site definition may change if the EPA later finds that contamination has spread further than originally estimated.

Regarding Reaches 1, 2, 5 and 10 of the Creek referred to by VanDeMark, Figure 1-2, Eighteenmile Creek AOC and Investigation Areas, in *Data Summary Report Site Characterization of the Eighteenmile Creek Area of Concern* (Reference 9 of the HRS documentation record at proposal), depicts 10 reaches delineated in a GLNPO investigation. For HRS purposes, the Site does not include all of these reaches, but as explained in this support document, the Site boundaries may expand upon further study.

The reach boundaries, adapted from Reference 9 to the HRS documentation record at proposal, Figure 1-2, are shown in Figure 1 of this support document. Reach 1 is the area from the mouth of the creek (at Lake Ontario) to Burt Dam. The Eighteenmile Creek site as evaluated does not extend through Reach 1 to Lake Ontario. Reach 2 is the Burt Dam Impoundment. Although the zone of contamination does not extend to Burt Dam, most of Reach 2 is included in the zone of contamination. The Reference 9 map provides the following definitions, also included in Figure 1 of this support document, for the remainder of the reaches:

- Reach 3: Confluence of Eighteenmile Creek with Upstream Extent of Burt Dam Impoundment
- Reach 4: Bedrock/Gravel Channel Downstream of Newfane Dam
- Reach 5: Newfane Dam Impoundment
- Reach 6: Gravel Channel Upstream of Newfane Dam Impoundment
- Reach 7: Meandering Section with Large Woody Debris Downstream of Niagara Escarpment

- Reach 8: Steep Gradient Run of the Escarpment
- Reach 9: Short Run Downstream of Corridor
- Reach 10: Eighteenmile Creek Corridor

Observed release samples are located in all Reaches except Reaches 3 and 8. There are 17 observed release sample locations in Reach 2, and 3 observed release sample locations in Reach 4 (Table 2 of the HRS documentation record at proposal). According to page 46 of Reference 9 to the HRS documentation record at proposal, PCBs were detected in all but two (R3-021-V and R3-023-V) of the Reach 3 sampling locations; Table 4-2a, Summary of Results for Reach 3 Sediment Samples, of Reference 9 contains the PCB concentrations detected in the Reach 3 samples.

During the study described in Reference 9 of the HRS documentation record at proposal, Reaches 8, 9 and 10 were not sampled. During the 2007 sampling event described in Reference 7 of the HRS documentation record at proposal, only Reaches 10 and 9 (the Eighteenmile Creek Corridor and the short run downstream of the Corridor, respectively, on Figure 1 of this support document) were sampled. Reach 8 may have been sampled during other studies.

All reaches are part of the same watershed evaluated using the HRS. Observed release has been documented in 75 samples essentially throughout Eighteenmile Creek, from close to the most downstream portion of Reach 2 (i.e., just south of Burt Dam) to Reach 10 (the Eighteenmile Creek Corridor in Lockport). All reaches from Reach 2 through Reach 10, not merely Reaches 2, 5 and 10, are at least partly included in the zone of contamination and, therefore, in the Eighteenmile Creek site at proposal.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.4 Deferral to the Great Lakes Legacy Act (GLLA) Program

Comment: VanDeMark requested that the EPA consider options and opportunities available under the GLLA prior to making other decisions such as listing this site on the NPL. VanDeMark stated that "GLLA was created specifically to address contaminated sediments at Great Lakes Areas of Concern (AOC) such as 18 Mile Creek."

Response: There are no provisions under CERCLA, the Federal Water Pollution Control Act (of which the GLLA is a part), or any EPA policy or regulation that require the EPA to defer listing a Site or to even evaluate whether to defer listing a Site from the NPL to the GLLA Program. The Eighteenmile Creek site meets criteria sufficient for placement on the NPL, including State support of the listing decision.

Furthermore, as stated in section 3.5, Site Remediation, of this support document, the need for any response action under CERCLA, GLLA or any other program is determined at a different stage in the Superfund process.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.5 Site Remediation

Comment: Both the Niagara County Legislature and VanDeMark provided recommendations on the approach to, timing of and funding for remedial action at the Eighteenmile Creek site. The Niagara County Legislature submitted several comments regarding remediation of the Eighteenmile Creek site, requesting that the EPA work closely with the NYSDEC and build on the "tremendous amount of work that has been completed to date." Furthermore, the Niagara County Legislature requested that the remediation project be divided into phases in response to public concerns and the threat of direct contact exposures for neighboring residents. Finally, the Niagara County Legislature requested the EPA implement the NYSDEC records of decision issued for six

parcels, identified as operable units, in the Eighteenmile Creek Corridor State Superfund site in Lockport as soon as possible. [2]

VanDeMark stated that "it is VanDeMark's understanding that the listing of 18 Mile Creek on the NPL would make it ineligible for funding through the Great Lakes Legacy Act (GLLA)" and "it does not appear that either NYSDEC or USEPA has adequately explored GLLA funding for 18 Mile Creek."

Response: Considerations regarding remedy selection, implementation and funding are not factors in the decision to list a site on the NPL; these decisions are not made at the listing stage. These actions are addressed during separate stages of the Superfund process. Listing of a site simply informs the public that the site poses sufficient threat to human health and the environment to warrant further investigation. It does not predetermine the response actions or establish any funding mechanisms. The Superfund process offers numerous opportunities for public participation at NPL sites, in addition to commenting on site listing proposals, which are available to the commenters and all of the public.

Placement of a site on the NPL identifies for the States and the public those sites that appear to warrant remedial action (56 FR 35842, July 29, 1991). The evaluation or remedial investigation/feasibility study (RI/FS) stage of the Superfund process involves on-site testing to assess the nature and extent of the public health and environmental risks associated with the site and to determine what CERCLA-funded remedial actions, if any, may be appropriate. After a period of public comment, the Agency responds to those threats by issuing a Record of Decision, which selects the most appropriate alternative. The selected remedy is implemented during the remedial design/remedial action stage. Finally, the site may be deleted from the NPL when the Agency determines that no further response is appropriate.

Regarding the Niagara County Legislature comments, including those regarding phasing the remediation and those requesting that the EPA work closely with the NYSDEC and build on the work that has been completed to date, information from all studies will be considered when the need for remediation and the mechanism for remediation, if any, is determined in other stages of the Superfund process.

Regarding VanDeMark's comment on NPL listing and eligibility for GLLA funding, NPL listing does not make a site ineligible for GLLA funding. According to the *Implementation of the Great Lakes Legacy Act of 2002 Final Rule and Notice of Implementation Policy* (71 FR 25506, May 1, 2006), if enforcement, regulatory or CERCLA response actions are pending, but no settlement has been reached:

> GLNPO will work and coordinate with the applicable enforcement or regulatory program to determine the appropriate project delineation and cost distribution between the Legacy Act and the other program. The appropriate GLLA share for conducting a project that meets the combined objectives of the enforcement program and the Great Lakes Water Quality Agreement will be determined through discussions with the applicable enforcement authority. The non-Federal sponsor at these sites will be required to contribute at least 50%.

The GLLA continues that if a decision document, or a settlement agreement under another applicable State or Federal authority has been signed:

> GLNPO may use GLLA funding for the portions of these sites not addressed by the Superfund decision document or settlement agreement where enforcement or regulatory actions are not anticipated. GLLA may be used to provide betterments or enhancements to the required elements of the decision document to address the U.S. Government's commitment under the Great Lakes Water Quality Agreement.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

[2] References 7 (p. 24) and 8 (pp. 12 and 17) of the HRS documentation record at proposal describe and depict the six parcels or operable units constituting the Eighteenmile Creek Corridor State Superfund site.

3.6 Adequacy of Data

Comment: VanDeMark expressed concern regarding the magnitude of data and documentation available concerning the Eighteenmile Creek site that have been generated for a decade or more, including information that was relied on for the proposed NPL listing. VanDeMark also stated that, "based upon a preliminary review of the data and analysis, VanDeMark believes that USEPA's proposal to list all of 18 Mile Creek on the NPL is not adequately supported and is overbroad given the available information."

Response: The data used to support statements of fact in the HRS documentation record at proposal were of sufficient quantity and type to make a listing decision. The HRS is a screening model that uses limited resources to determine whether a site should be placed on the NPL for possible Superfund response. A subsequent stage of the Superfund process, the remedial investigation, characterizes conditions and hazards at the site more comprehensively. Balancing the need to fully characterize a site with the limited resources available to collect and analyze site data is critical. For this reason, new data are generally not sought as long as the site qualifies for listing. However, any additional data characterizing site conditions could provide useful information during the remedial investigation. Investigating each possible site completely and thoroughly prior to evaluating the site for proposal to the NPL would be the ideal, but the need for certainty before action must be reconciled with the need for inexpensive, expeditious procedures to identify potentially hazardous sites.

All data that were relied upon for the proposed NPL listing were included in the HRS documentation record references at proposal; however, all studies would be considered in performing other stages of the Superfund process. The commenter did not question any of the data used or provide any additional data or information that might call into question data used to make the listing decision.

Regarding the assertion that the listing decision is not adequately supported and is overbroad, the HRS at Section 2.1.3, *Common Evaluations*, states the following:

> Evaluations common to all four HRS pathways include:
> - Characterizing sources.
>
> . . . .
>
> - Scoring likelihood of release (or likelihood of exposure) factor category.
>
> . . . .
>
> - Scoring waste characteristics factor category.
>
> . . . .
>
> - Scoring targets factor category.
>
> . . . .

Furthermore, HRS Section 4.1.1.3, *Evaluation of overland/flood migration component* [of the Surface Water Migration Pathway], states the following:

> > Evaluate the drinking water threat, human food chain threat, and environmental threat for each watershed for this component based on three factor categories: likelihood of release, waste characteristics, and targets.

In characterizing the source, section 3.3.2, Extent of Site at Proposal, of this support document demonstrates how the HRS was applied to determine this site is a contaminated sediment site. The following subsections address the adequacy of the data used in supporting the three factor categories defined in the HRS as quoted above—likelihood of release, waste characteristics and targets.

Likelihood of Release

Likelihood of release for the Eighteenmile Creek site was correctly documented and determined consistent with the HRS. Likelihood of release was evaluated in two threats in the surface water migration pathway: human food chain threat and environmental threat, as directed by HRS Section 4.1.1.3, *Evaluation of overland/flood migration component*.

HRS Sections 4.1.3.1, *Human food chain threat-likelihood of release*, and 4.1.4.1, *Environmental threat-likelihood of release*, instructs the evaluator to use the same likelihood of release factor category value for the human food chain threat and the environmental threat, as assigned for the watershed for the drinking water threat according to HRS Section 4.1.2.1.3, *Calculation of drinking water threat-likelihood of release factor category value*. HRS Section 4.1.2.1.3 states that if an observed release is established for the watershed, the observed release factor value of 550 is assigned as the likelihood of release factor category value.

Page 35 of the HRS documentation record at proposal, in section 4.1.2.1.1, Observed Release, establishes the observed release by chemical analysis as documented in Eighteenmile Creek between the Eighteenmile Creek Corridor in Lockport, also known as Reach 10 (farthest upstream sample: 18MC-L03-S01-Z1), to just south of Burt Dam (farthest downstream sample: R2-001-V-Z3) shown on Figure 1 of this support document.

Tables 1 and 2 of the HRS documentation record at proposal provide analytical data for a total of 75 observed release sediment samples (containing PCBs, benzo(a)pyrene, copper, lead and/or zinc) collected from Eighteenmile Creek essentially throughout this area from just north of the NYSBC in Lockport to just south of Burt Dam, as shown on Figure 1 of this support document. The specific sample locations and associated concentrations of the relevant hazardous substances are shown on Figures 2A through 2E of the HRS documentation record at proposal.

Because an observed release for the watershed was established and documented (see section 3.7, Observed Release: Selection of Background Level, of this support document), the likelihood of release factor value was correctly assigned as 550.

VanDeMark did not challenge any aspect of likelihood of release except background, which is addressed in section 3.7, Observed Release: Selection of Background Level, of this support document, and did not challenge that a release had occurred.

Waste Characteristics

Waste characteristic HRS scoring values for the Eighteenmile Creek site were correctly documented and assigned consistent with the HRS. Waste characteristics were evaluated in two threats in the surface water pathway: human food chain threat and environmental threat, as directed by HRS Section 4.1.1.3 quoted above. Specific HRS requirements for waste characteristics under each threat are cited below by threat.

Human Food Chain Threat Waste Characteristics

The HRS at Section 4.1.3.2, *Human food chain threat-waste characteristics*, instructs the evaluator to "[e]valuate the waste characteristics factor category for each watershed based on two factors: toxicity/persistence/bioaccumulation and hazardous waste quantity."

Regarding toxicity/persistence/bioaccumulation, the HRS at Section 4.1.3.2.1, *Toxicity/persistence/bioaccumulation*, instructs the evaluator to "[e]valuate all those hazardous substances eligible to be evaluated for toxicity/persistence in the drinking water threat for the watershed (see section 4.1.2.2)." The HRS further instructs that for each hazardous substance, there should be a toxicity factor value, a persistence factor value, and a combined toxicity/persistence factor value assigned (see HRS Section 4.1.2.2.1, *Toxicity/persistenc*e). HRS Sections 4.1.3.2.1.1, *Toxicity*, and 4.1.3.2.1.2, *Persistence*, provide instructions on

determining the toxicity and persistence, respectively. HRS Section 4.1.3.2.1.3, *Bioaccumulation potential*, provides instruction on assigning a bioaccumulation potential factor value to each hazardous substance. HRS Section 4.1.3.2.1.4, *Calculation of toxicity / persistence / bioaccumulation factor value*, directs the assignment of both the toxicity/persistence factor value and the toxicity/persistence/bioaccumulation factor value.

Regarding hazardous waste quantity, HRS Section 4.1.3.2.2, *Hazardous waste quantity*, instructs the evaluator to "[a]ssign the same factor value for hazardous waste quantity for the watershed as would be assigned in section 4.1.2.2.2 for the drinking water threat." HRS Section 4.1.2.2.2, *Hazardous waste quantity*, of the surface water migration pathway-specific portion of the HRS, cites HRS Section 2.4.2, *Hazardous waste quantity*, of the Overview portion of the HRS, which instructs in part to evaluate source hazardous waste quantity using the following four measures in the following hierarchy: hazardous constituent quantity; hazardous wastestream quantity; volume; and area.

HRS Section 4.1.3.2.3, *Calculation of human food chain threat-targets factor category value*, establishes the human food chain threat-waste characteristic factor value by multiplying together the toxicity/persistence factor value and the hazardous waste quantity factor value for the watershed and assigning the factor value from HRS Table 2-7.

The HRS documentation record at proposal, on page 40 identifies the hazardous substances eligible to be evaluated for toxicity/persistence: PCBs [Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260], copper, lead, zinc and benzo(a)pyrene.

The HRS documentation record at proposal on page 41 documents assigned toxicity/persistence/bioaccumulation factor values for the hazardous substances from HRS Table 4-16. PCBs and benzo(a)pyrene had the highest toxicity/persistence/bioaccumulation factor values at 5×10^8. Page 32 of the HRS documentation record at proposal documents analysis of the four hazardous waste quantity measures and, in accordance with HRS Section 2.4.2.1.5, *Calculation of source hazardous waste quantity value*, selected the highest of the values assigned to the source (the contaminated sediments). In the case of Eighteenmile Creek, this value is >0 based on the volume measure. Page 42 of the HRS documentation record at proposal documents the assignment of the human food chain threat waste characteristics factor category.

VanDeMark did not challenge any aspect of waste characteristics evaluation under the human food chain threat.

Environmental Threat Waste Characteristics

The HRS at Section 4.1.4.2, *Environmental threat-waste characteristics*, instructs the evaluator to "[e]valuate the waste characteristics factor category for each watershed based on two factors: ecosystem toxicity/persistence/bioaccumulation and hazardous waste quantity."

Regarding ecosystem toxicity/persistence/bioaccumulation, HRS Sections 4.1.4.2.1.1, *Ecosystem Toxicity*, 4.1.4.2.1.2, *Persistence*, and 4.1.4.2.1.3, *Ecosystem bioaccumulation potential*, direct the assignment of the ecosystem toxicity value, the persistence value and the ecosystem bioaccumulation potential value. The HRS at Section 4.1.4.2.1.4, *Calculation of ecosystem toxicity/persistence/bioaccumulation factor value*, directs the assignment of the ecosystem toxicity/persistence/bioaccumulation factor value.

Regarding hazardous waste quantity, HRS Section 4.1.4.2.2, Hazardous waste quantity, instructs the evaluator to "[a]ssign the same factor value for hazardous waste quantity for the watershed as would be assigned in section 4.1.2.2.2 for the drinking water threat." HRS Section 4.1.2.2.2, *Hazardous waste quantity*, in the surface water migration pathway portion of the HRS, cites HRS Section 2.4.2, *Hazardous Waste Quantity*, in the Overview section of the HRS, which instructs in part to evaluate source hazardous waste quantity using the following four measures in the following hierarchy: hazardous constituent quantity; hazardous wastestream quantity; volume; and area.

HRS Section 4.1.4.2.3, *Calculation of environmental threat-waste characteristics factor value*, establishes the human food chain threat-waste characteristic factor value by multiplying together the ecosystem toxicity/persistence factor value and the hazardous waste quantity factor value for the watershed and assigning the factor value from HRS Table 2-7.

The HRS documentation record at proposal on page 40 identifies the hazardous substances eligible to be evaluated for ecosystem toxicity/persistence: PCBs [Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260], copper, lead, zinc and benzo(a)pyrene. The HRS documentation record at proposal documents on page 45 assigned ecosystem toxicity/persistence/bioaccumulation factor values for the hazardous substances, as found in HRS Table 4-21. PCBs and benzo(a)pyrene had the highest ecosystem toxicity/persistence/bioaccumulation factor values at 5×10^8. Page 32 of the HRS documentation record at proposal documents analysis of the four hazardous waste quantity measures and, in accordance with HRS Section 2.4.2.1.5, *Calculation of source hazardous waste quantity value*, selected the highest of the four values assigned to the source (the contaminated sediments). In the case of Eighteenmile Creek, this value is >0, based on the volume measure. Page 46 of the HRS documentation record at proposal documents the assignment of the environmental threat-waste characteristics factor category.

VanDeMark did not challenge any aspect of waste characteristics evaluation under the environmental threat.

Targets

The targets for the Eighteenmile Creek site were correctly documented and determined. Targets were evaluated in two threats in the surface water pathway: human food chain threat and environmental threat, as directed by HRS Section 4.1.1.3, *Evaluation of overland/flood migration component*, quoted above. Specific HRS requirements for targets under each threat are cited below.

Human Food Chain Threat Targets

The HRS at Section 4.1.3.3, *Human food chain threat-targets*, instructs the evaluator to evaluate two target factors for each watershed—food chain individual and population—and then for both factors, to determine whether the target fisheries are subject to actual or potential human food chain contamination. According to HRS Section 4.1.3.3, a fishery (or portion of a fishery) within the target distance limit of the watershed is subject to actual human food chain contamination if, among other things, a hazardous substance having a bioaccumulation potential factor value of 500 or greater is present in a sediment sample from the watershed at a level that meets the criteria for an observed release to the watershed from the site, and at least a portion of the fishery is within the boundaries of the observed release (or if the fishery is closed, a hazardous substance for which the fishery has been closed has been documented in an observed release to the watershed from the site and at least a portion of the fishery is within the boundaries of the observed release).

Furthermore, HRS Section 2.5, *Targets*, defines Level II contamination as including those situations where the hazardous substances present do not have applicable benchmarks.

As documented on page 41 of the HRS documentation record at proposal, the bioaccumulation potential factor value for PCBs and benzo(a)pyrene is 50,000, exceeding the threshold of 500. The HRS documentation record at proposal on page 43 documents fishing for human consumption in Newfane, New York, in the area delineated by observed release samples per HRS Section 2.5. The HRS documentation record at proposal continues on the same page to document the target fishery at Fisherman's Park just downstream of Burt Dam and beyond the zone of contamination. Page 43 of the HRS documentation record at proposal correctly scores Level II concentrations for food chain individual; page 44 of the HRS documentation record at proposal correctly scores Level II concentrations for food chain population; and page 44 of the HRS documentation record at proposal correctly scores potential contamination.

Furthermore, in addition to evidence of fishing for human consumption at specific locations along Eighteenmile Creek, Eighteenmile Creek is closed to fishing, as documented on page 5 of Reference 36 (*Chemicals in Sportfish*

and Game, Health Advisories) to the HRS documentation record at proposal; the entire Eighteenmile Creek is a closed fishery. The State's Department of Health issued a "don't eat" advisory for all fish due to PCB contamination. The hazardous substance for which the fishery has been closed and attributable to the Eighteenmile Creek site has been documented in the observed release to the watershed, and at least a portion of the fishery is within the boundaries of the observed release (i.e., zone of contamination).

VanDeMark did not challenge any aspect of human food chain threat target evaluation.

Environmental Threat Targets

HRS Section 4.1.4.3, *Environment threat-targets*, instructs the scorer to "[e]valuate the environmental threat-targets factor category for a watershed using one factor: sensitive environments." HRS Section 4.1.4.3.1, *Sensitive environments*, instructs the evaluator to evaluate sensitive environments using ecological-based benchmarks rather than health-based benchmarks in determining the level of contamination from samples.

HRS Section 4.1.4.3.1.2, *Level II concentrations*, instructs the evaluator to assign value(s) from HRS Table 4-23 to each sensitive environment subject to Level II concentrations and for wetlands, to assign an additional value from HRS Table 4-24 based on the total length of wetlands along the hazardous substance migration path (that is, wetland frontage).

Page 47 of the HRS documentation record at proposal correctly explains that there are several HRS-eligible wetlands along the contaminated portion of Eighteenmile Creek and within the zone of actual contamination for the environmental threat. Therefore, actual contamination is documented, and the wetland frontage within this zone is evaluated as actually contaminated. No media-specific benchmarks were exceeded; therefore, the wetlands were evaluated as Level II concentrations, per HRS Section 2.5.2, *Comparison to benchmarks*.

Page 48 of the HRS documentation record at proposal correctly documents the application of the HRS to information on the Eighteenmile Creek to document Level II concentrations at wetlands along Eighteenmile Creek in the zone of contamination.

VanDeMark did not challenge any aspect of environmental threat target evaluation.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

3.7 Observed Release: Selection of Background Level

Comment: In making a comment indicating that only those portions of Eighteenmile Creek with "significant levels of sediment impact above regional background" should be listed as the Site, VanDeMark questioned the adequacy of the background level used to establish the extent of the Site.

Response: Sample-specific background levels for different sampling events were correctly applied in the evaluation of the Eighteenmile Creek site. For HRS purposes, site-specific (sample-specific) background is evaluated, as opposed to regional background information, so that it can be determined if the contamination can be attributed to any specific release. However, regional background information may be considered in other stages of the Superfund process, e.g., to determine the full extent of contamination in the vicinity of the Site. In performing an evaluation under the HRS, background is used to establish the presence or absence of upstream sources and also to determine significant increase in contamination, i.e., to determine observed release and the zone of contamination. HRS Section 4.1.2.1.1, *Observed release*, says in part that observed release by chemical analysis can be established when:

- Analysis of surface water, benthic, or sediment samples indicates that the concentration of hazardous substance(s) has increased significantly above the background concentration for the site for that type of sample (see section 2.3).

- **Limit comparisons to similar types of samples and background concentrations**—for example, compare surface water samples to surface water background concentrations….
- Some portion of the significant increase must be attributable to the site to establish the observed release, except: when the site itself consists of contaminated sediments with no identified source, no separate attribution is required. *[Emphasis added]*

HRS Section 4.1.3.1, *Human food chain threat-likelihood of release,* instructs that the likelihood of release factor category value (which includes observed release as a component) for the human food chain threat for the watershed be assigned as it would be for the drinking water threat, as described in HRS Section 4.1.2.1.3, *Calculation of drinking water threat-likelihood of release factor category value*.

Furthermore, HRS Section 2.3, *Likelihood of release,* says in part to:

> Establish an observed release either by direct observation of the release of a hazardous substance into the media being evaluated (for example, surface water) or by chemical analysis of samples appropriate to the pathway being evaluated (see sections 3, 4, and 6). The minimum standard to establish an observed release by chemical analysis is analytical evidence of a hazardous substance in the media **significantly above the background level**. Further, some portion of the release must be attributable to the site. Use the criteria in Table 2-3 as the standard for determining analytical significance. *[Emphasis added]*

As explained in HRS Section 2.3, *Likelihood of release,* establishing an observed release by chemical analysis involves demonstrating that the concentration of the hazardous substance in a release sample is significantly increased above background, and attributing some portion of the significant increase to the site. When other sites might be present in the vicinity of the site being evaluated and might have contributed to the significant increase (e.g., in highly industrialized areas), it is consistent with the HRS to obtain sufficient samples between the site being evaluated and other potential sites to demonstrate an increase in concentration attributable to the site above that level possibly due to other possible sites. Thus, background samples are used at this site both to establish a significant increase and to establish attribution.

In the case of the Eighteenmile Creek site, background sample locations that would be outside the influence of the anticipated zone of contamination were selected. As stated on page 19 of the HRS documentation record at proposal, background samples were collected from Eighteenmile Creek and its tributaries; background sample locations are shown in Figure 1 of this support document. For the 2007 sampling event where Eighteenmile Creek in Lockport was sampled, Figure 2A of the HRS documentation record at proposal depicts that background samples were collected at the headwaters of Eighteenmile Creek southeast and outside the influence of the NYSBC as well as at the origins of the East and West Branches of Eighteenmile Creek immediately upstream of the Eighteenmile Creek Corridor. For the sampling event further downstream, which took place November 2009 through June 2010, Figures 2B, 2C and 2D of the HRS documentation record at proposal more clearly depict background sample locations that were identified on various tributaries to Eighteenmile Creek in relatively non-industrial portions of Niagara County. These sampling locations were chosen to screen out other possible sites and to establish the absence of upstream sources.

The HRS documentation at proposal, in section 2.4.1, Hazardous Substances, explained the similarity between background sediment samples and sediment samples showing observed release, highlighting features such as physical setting, sample depth, sample description, sampling method, analytical method and level of total organic compounds. Additionally, the time frame of observed release sample collection was similar to that of the background samples used for the evaluation, in that the two distinct sampling events had identified their own background locations for sampling.

VanDeMark did not question the location of the background samples and whether or not they would screen out other possible sources. Furthermore, VanDeMark did not specify that the “regional background” to which it referred had been established for sediment, which would be needed for comparison purposes. Moreover,

VanDeMark did not specifically challenge any of the background level values specified in Tables 1 or 2 of the HRS documentation record at proposal.

This comment results in no change to the HRS score and no change in the decision to place the Site on the NPL.

4.0 Conclusion

The original HRS score for this site was 50.00. Based on the above response to comments, the Site score remains unchanged. The final scores for the Eighteenmile Creek site are:

Ground Water:	Not Scored
Surface Water:	100.00
Soil Exposure:	Not Scored
Air:	Not Scored
HRS Site Score:	50.00